

REMARKS

Claims 1-8, 10-14, 16-25, 27-36, 38-43, 45, and 46 were pending in the above-identified application. Of these, claims 34-36, 38-43, and 46 are allowed; claims 1-8, 10-14, 16-25 and 27-33 are rejected; and claims 40 and 45 are objected to. Applicants, having amended the claims, respectfully request reconsideration.

Claim Objections

The examiner objected to claims 40 and 45 for making reference to a “comparison circuit output node” that lacks antecedent basis. Claims 40 and 45 are amended to cure this problem. Applicants thank the examiner for his attention to detail.

Rejections Under 35 USC §112

Claim 31 and 33 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. The examiner argues, in essence, that applicants’ comparison circuits compare “each and every sample,” and not “only a subset” as claimed. Claim 31 is amended to recite “identifying mismatches between ones of the first and second series of sampled-data symbols for a selected pattern of the data symbols...” This language finds support in e.g. Figure 13, in which AND gate 1325 only passes error signals Err if a pattern-matching circuit 1315 finds that data Dout matches a predetermined pattern (See paragraph [0081]). The rejection of claim 31 should be withdrawn in light of the clarifying amendment.

Claim 33 is canceled, rendering the rejection moot.

Claims 1-8, 10 and 11 are rejected under 35 U.S.C. §112, second paragraph, for omitting what the examiner considers to be essential structures. “Specifically, according to figure 7, the ‘comparison circuit’ (755) is coupled to the ‘multiplexer’ (715 and 720). However, such features are not appropriately captured by the claim to make them definite” (Office Action, page 4). Applicants do not understand the rejection, but did note and correct an error that may have been the cause of confusion. Claim 1 presently recites two samplers, a comparison circuit, and a multiplexer. Each of the comparison circuit and the multiplexer has a pair of inputs, each connected to a respective output from one of the samplers. With reference to Figure 9, element 755 is a comparison circuit and element 720 a multiplexer, and both the comparison circuit and

the multiplexer have inputs connected to the respective outputs from samplers 705 and 710. The rejection of amended claim 1 should be withdrawn over this clear support.

Claims 2-8, 10, and 11 stand rejected due to their dependence upon claim 1. The rejections of these claims should be withdrawn in light of the foregoing amendment to claim 1 and for the reasons presented above.

Rejections Under 35 USC §102

Claims 12-14, 16-24, and 27-31 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ono et al (U.S. Pat. No. 5896392; "Ono"). Applicants take each rejection in turn.

Claim 12

Claim 12 is amended to recite a method that compares sampled symbols with expected data "to identify mismatches." The method then issues an error signal in response to the mismatches "only if the series of sampled symbols matches [a] data pattern." This method finds support in applicants' Figure 13, in which filter 1305 only issues error signal ErrFil if a comparison by XOR gate 1015 notes an error *and* pattern matching circuit 1315 indicates that sampled data Dout matches a pattern. "Data filter 1305 allows receiver 1300 to perform pattern-specific margin tests to better characterize receiver performance" (Para. [0080]). Ono does not teach pattern-specific error detection, so claim 12 distinguishes the Ono reference.

Claims 13, 14, and 16-22

Claims 13, 14, and 16-22 depend from claim 12, and consequently distinguish Ono for at least the same reasons claim 12 distinguishes. The rejections of claims 13, 14, and 16-22 should therefore be withdrawn.

Claim 23

Claim 23 is amended to recite a method that compares sampled symbols with expected data "to identify mismatches." The method then issues an error signal in response to the mismatches "only if the series of sampled-data symbols matches [a] data pattern." As noted above in connection with claim 12, this method finds support in applicants' Figure 13 and the related text. Ono does not teach pattern-specific error detection, so claim 23 distinguishes the Ono reference.

Claims 24 and 27-30

Claims 24 and 27-30 depend from claim 23, and thus distinguish Ono for at least the same reasons claim 23 distinguishes. The rejections of claims 24 and 27-30 should therefore be withdrawn.

Claim 31

Claim 31 is amended to recite a method that identifies “mismatches between [two] series of sampled-data symbols for a selected pattern of data symbols...” (claim 31, emphasis in original to highlight amendment). Ono does not teach pattern-specific detection of symbol mismatches, so claim 31 distinguishes the Ono reference. The rejection of claim 31 should therefore be withdrawn.

Rejections Under 35 USC §103

Claims 14, 25, 35, and 36 stand rejected under 35 U.S.C. §103(a) as unpatentable over Ono in view of Best et al. Each of the rejected claims depends from a base claim that includes some form of pattern-specific error detection, and that distinguishes Ono for at least this reason. Dependent claims 14, 25, 35, and 36 include the pattern-matching limitations of their parent claims, and thus distinguish Ono for at least the same reasons the parent claims distinguish. Best et al. do not teach the pattern matching, so the combination of Ono and Best et al. do not present a *prima facie* case of obviousness. The rejections of claims 14, 25, 35, and 36 should therefore be withdrawn.

Claim 32 stands rejected over Ono in view of Komatsu et al. (U.S. Patent No. 6,631,486). Claim 32 is amended to recite “issuing a pattern-specific error signal if corresponding ones of the symbols in the first and second series of sampled-data signals mismatch when the first series of sampled-data symbols matches [a] data pattern” (emphasis omitted). Ono and Komatsu do not teach the issuance of pattern-specific error signals, so the combination of these references does not present a *prima facie* case of obviousness. The rejection of claim 32 should therefore be withdrawn.

Allowable Subject Matter

The examiner indicated that claims 34-36, 38-43, 45 and 46 “contain allowable subject matter” (Office Action, page 9).

New Claims

New claim 47 recites a method performed by embodiments of the receiver circuit of claim 1, and is believed to be allowable for similar reasons. Claim 48 depends on claim 47, and is therefore allowable for at least the same reasons claim 47 is allowable.

New claim 49 recites a receiver that includes a "filter having a pattern-matching circuit" that functions in a manner similar to the "comparing" of claim 12, and is believed to be allowable for reasons similar to those given above in connection with claim 12. Claim 50 depends on claim 49, and is therefore allowable for similar reasons.

CONCLUSION

Applicants believe the claims to be in condition for allowance, and consequently request the examiner issue a notice of allowance. If the examiner's next action is other than the allowance of the pending claims, the examiner is requested to call applicants' representative at (925) 621-2113.

Respectfully submitted,

/Arthur J. Behiel/

Arthur J. Behiel
Attorney for Applicants
Reg. No. 39,603